

COLLATERAL BEE-BOXES:

Or, a New, Easy, and Advantageous

M E T H O D

O F

MANAGING B E E S.

IN WHICH

Part of the HONEY is taken away, in an easy and pleasant Manner, without destroying, or much disturbing the BEES; and early Swarms are encouraged.

By STEPHEN WHITE, M. A.
Rector of Holton, in Suffolk. *R*

*Sic Vos jam Vobis —
 Pauperis est numerare Pecus.*

Ovid. Met.

THE THIRD EDITION, IMPROVED.

L O N D O N:

Printed for L. DAVIS and C. REYMERS, against
Grays Inn, Holborn.

MDCCLXIV.

//

COLLEATERAL HER BOXES

Of a New Type, and Advantages

M E T H O D

MANAGING THE



BY STEPHEN WHITE, M.A.
Author of 'The History of the Stationers' Company'

Printed by J. W. Smith, Stationers' Hall, London

THE THIRD EDITION

AND A NEW EDITION

LONDON

INTRODUCTION.

THE first Inventor of the Octagonal Bee-Boxes, which we now and then meet with in the Gardens of the Curious, was *John Gedde, Esq.* He published his Invention, in the Year 1675, having obtained the King's Patent for the same; and because the Recommendation of the Royal Society was thought necessary to give Credit to his Scheme, which, alas! was not to be procured by Fees, he ventured to draw up a *formal Approbation in their Name*, and prefix it to his Book, without *their Authority*. These Boxes appear, at first Sight, to be very expensive and unweildy: and every one, I believe, who has experienced them, has found, to his Cost, that they answer only *one* of the *Ends*

B

the

ii INTRODUCTION.

the ingenious Gentleman proposed by them, and which, as his principal End, he sets forth in the Title Page of his *English Apiary*, viz. *To free the Owners from the great Charge and Trouble that attends the Swarming of Bees*: that is, in other Words, to deprive the poor Bee-Master of all the Profit, and one of the highest Pleasures he can expect, from these useful and delightful Insects. - This End, if it be a desirable one, every Bee-Mistress may obtain, without beating her Brains, or going much out of her old Road; but by only ordering her Artificer to provide a large Quantity of Straw, and make her Hives to contain two Bushels a-piece.

Many Years after this, Mr. *Warder*, of *Croydon*, published his *True Amazons, or Monarchy of Bees*. He directs you, to make the same Sort of Boxes, with some, not material, Alterations.

INTRODUCTION. iii

rations. He calls this a new Discovery and Improvement, and recommends it likewise to his Reader, by telling him, it will *prevent Swarming*.

In the pretended Approbation of the Royal Society, Mr. *Gedde* tells us, in the Name of that illustrious Body, that, in the Treatises, relating to the Management of Bees, we find several Draughts, of different Bee-Hives, to the Intention of *preventing Swarming*, but that none of those Ways have proved so effectual, as the Method prescribed by Mr. *Gedde*.

But why, (have I often said to myself) why so much Pains, to hinder me from increasing my small Stock? Why should these Gentlemen deprive me of a Pleasure I so ardently look and long for every Spring, and which I am more delighted with, than all the other Pleasures of the Month of *May*? Can the whole Brute Crea-

iv INTRODUCTION.

tion afford a more entertaining Scene, than to see a vast Multitude of these diminutive People, merely for the Good of the State they are leaving for ever; to see them, I say, with a chearful Alacrity, abandoning their native Conntry, to go and settle in a foreign Region, they know not where; quitting all their Treasures, which they have laboured so hard to procure, and fought so valiantly to defend, and going to seek an empty House, not knowing whether they shall be able to find one. Behold my little Emigrants! in Spight of all our *Swarm-Preventers*, behold, I see a Cloud of them over-shadowing my Garden! see them hurrying backwards and forwards, exulting in the Presence of their Sovereign, observing her Motions, and waiting her Commands, while she, with the double Anxiety of a Queen and a Parent, is looking
ing

INTRODUCTION, v

ing for a convenient Branch, on yonder Espaliers, where she may rest a-while, and consult what Course she is to take, and whither she shall lead her loyal and beloved Subjects.

But I must recall my licentious Imagination : I must leave these Ecstasies, how pleasing soever, and consider, that while I am transported, the courteous Reader is un-edified. It is Time he should know, yet I must detain him a little longer before he does know, what he is to find in the following Sheets.

The Smallness of my Cure, has afforded me more leisure Hours, than usually fall to the Share of a great Part of my Brethren. Many of these Hours, during almost the whole Space of a now declining Life, have been spent in my Bee-Garden ; with as much Innocence, I hope, and a great deal more to my Taste and Entertainment, than if they had been spent, with a *Gun* and

vi INTRODUCTION.

and *Pointer* in the Fields, or in my Parlour with a Pack of *Cards*. These fashionable Amusements (especially the latter) can afford little Entertainment to a contemplative Mind: But the surveying the Works of Nature, particularly the Instincts and Polity of many living Creatures, and the wonderful Methods they make Use of, for their Sustainance and Safety, will give a real and high Delight to a rational Soul: And as it is next to impossible, to turn our Thoughts to the Observation of these Creatures, without lifting them up, at the same Time, in Adoration of Him who formed them, this will, in a manner, sanctify our Pleasures, and turn even our *Diversions*, into a *Sacrifice* to our *Maker*.

Manifold are the Works of God, and in Wisdom has he made them all: But if my Partiality for my favourite Insects, does not very much decieve me,
their

INTRODUCTION. vii

their indefatigable Industry, their Loyalty to their Queen, the geometrical Accuracy of their Combs, &c. are Wonders not to be met with, in any of the innumerable Beasts, Birds, or Insects, that are upon the Face of this Earth.

My Fondness for these little Animals, soon put me upon endeavouring, if possible, to save them from *Fire and Brimstone*. I thought I had Reason to be content, to share their Labours for the present, and great Reason to rejoice, if I could, at the same Time, preserve their Lives, to work for me another Year. The main Drift therefore of all my Observations and Experiments has been, to discover an easy and cheap Method, suited to the Abilities of the common People, of taking away so much Honey as can well be spared, without destroying, or starving the Bees: And, by the same Means,

viii INTRODUCTION.

Means, to *encourage*, rather than *prevent Swarming*, I mean first and seasonable Swarms; for second and late Swarms being little worth, and very prejudicial to the old Stocks, they ought, if possible, and, in the Method I propose, may sometimes be prevented. This Design, I can assure every Lover of Bees, and every Lover of his own Interest, with all the Confidence of a Projector, I have, after a great many unavailing Experiments, at last fully accomplished.

I don't wonder, that *Epicurus's* Atoms, without either Hand or Head to direct them, should be so long in forming the Universe, and should make so many wrong and imperfect Worlds, before they hit on a right one; since my Deal Boards, much fitter Materials for the Purpose than Atoms, assisted with all the Mechanical Skill, that I and my ingenious Carpenter are Mas-

INTRODUCTION. ix

ters of, have been jumbled together in such a Variety of wrong and ineffectual Forms, and been almost forty Years in making a Bee-box; such a plain and simple Bee-box, as you will see in my first Chapter.



7 AP 66

A New, Easy, and Advantageous

M E T H O D

O F

MANAGING B E E S.

C H A P. I.

Directions how to make a single Box.

IT may be made of Deal, or any other Boards well seasoned, that are not apt to warp or split. The Boards should be near an Inch thick. Let it be in Figure four Square, and nine Inches five Eights in Height and Breadth, every Way measuring within. With these Dimensions it will contain near a Peck and an half. The

front Part must have a Door cut in the Middle of the bottom Edge, three Inches Wide, and near half an Inch in Height, which will give free Liberty to the Bees to pass through, yet not be large enough for their Enemy the Mouse to enter. In the back Part you must cut a Hole with a Rabbit in it, in which you are to fix a Pane of the cleanest and best Crown-Glass, about 5 Inches in Length and 3 in Breadth, and fasten it with Putty; let the Top of the Glass be placed as high as the Roof within-side, that you may see the Upper Part of the Combs, where the Bees with their Riches are mostly placed. You will, by this Means, be better able to judge of their State and Strength, than if your Glass was fixed in the Middle. The Glass must be covered with a thin Piece of Board, by Way of Shutter, which may be made to hang by a String, or turn upon
a

a Nail, or slide Sideways between two Mouldings. Such as are desirous of seeing more of the Bees Works, may make the Glafs as large as the Box will admit, without weakening it too much; or they may add a Pane of Glafs on the Top, which must likewise be covered with a Shutter, fastned down with Pegs to prevent Accidents.

The Side of the Box which is to be joined to another Box of the same Form and Dimensions, as it will not be exposed to the external Air, may be made of a Piece of slit Deal not half an Inch thick. This I call the Side of Communication, because it is not to be wholly enclosed: A Space is to be cut or left at the Bottom the whole Breadth of the Box, and a little more than an Inch in Heighth, and a Hole or Passage is to be made at the Top, three Inches long, and more than half an Inch wide. Through these the Bees
are

are to have a Communication from one Box to the other ; the lower Communication being on the Floor, our Labourers, with their Burdens may readily and easily ascend into either of the Boxes : The upper Communication is only intended as a Passage between the Boxes, resembling the little Holes, or narrow Passes, which may be observed in the Combs formed by our sagacious Architects, to save Time and shorten the Way, when they have Occasion to pass from one Comb to another ; just as, in populous Cities, there are narrow Lanes and Alleys, passing transversely from one large Street to another.

In the next Place you are to provide a loose Board, Fig. K. half an Inch thick, and large enough to cover the Side where you have made the Communications. You are likewise to have in Readiness several little Iron Staples,

Staples, an Inch and half long, the two Points or Ends more than half an Inch, as in Fig. I. The Use of these will be shewn in the next Chapter.

You have now only to fix two Sticks crossing the Box from Side to Side, and crossing each other, to be a Stay to the Combs ; one about three Inches from the Bottom, the other the same Distance from the Top : And when you have painted the whole, to make it more durable, your Box is finished.

The judicious Bee-Master, I hope, will here observe that the Form of the Box I have been describing, is as plain as it is possible for it to be. It is little more than five square Pieces of Board, nailed together : So that a poor Cottager, who has but Ingenuity enough to saw a Board into the given Dimensions, and to drive a Nail, may make his own Boxes well enough, without

without the Help or Expence of a Carpenter.

No Directions are necessary for making the other Box, which must be of the same Form and Dimensions : The two Boxes differ from each other only in this, that the Side of Communication of the one, must be on your Right Hand; of the other, on your Left.

C H A P. II.

How to Hive a Swarm into one or both the Boxes.

TO do this you are to take the loose Board, and fasten it to one of the Boxes, so as to stop the Communications. This may be done by three Staples, one on the Top of the Box near the Front : The two others

on the Back near the Top, and near the Bottom. Let one Point of the Staple be thrust into a Gimlet Hole made in the Box, so that the other Point may go as tight as you can over the loose Board to keep it from slipping as you handle it.

Be careful to tie the Shutter close to the Glass, that the Light may not enter; for the Bees seem to look upon the Light, as a Hole or Breach in their House, and on that account may not so well like their new Habitation. But the principal Thing to be observed at this Time, is to cover the Box, as soon as ever the Bees are hived, with a Linen Cloth thrown loosely over it, or with green Boughs, to protect it from the piercing Heat of the Sun. Boxes will admit the Heat much sooner than Straw-Hives, and if the Bees find their House too hot for them, they will be wise enough to leave it. If

D

the

the Swarm be larger than usual, instead of fastening the loose Board to one Box, you may join two Boxes together with three Staples, leaving the Communications open from one to the other, and then hive your Bees into both. In all other Respects they are to be hived in Boxes after the same Manner as in common Hives; which being well known, I need not stay to give particular Directions concerning it.

C H A P. III.

In what Manner and Situation to place the Bees when hived.

MR. Gedde and Mr. Warder have directed very costly Bee-Houses (as it is fit they should) for the Reception of their fine wrought Boxes. These may serve well enough for an Ornament to a Gentleman's Garden,
or

or the Amusement of the Curious : But my Endeavours are chiefly laid out, and my Boxes intended, for the Use and Advantage of the industrious Farmer and poor Cottager : and I do here assure them, from my own long Experience, that their Bees will be safe in these Boxes, though they stand in the open Air, in the coldest Winter: Be but careful to skreen them from the *Sun*, and then bid Defiance to the puffing Cheeks of *Boreas*: Skreen them from the Summer Sun, because the Heat of it is greater than the Bees, or their Works can bear ; and skreen them from the Winter Sun, the Warmth of which will draw them from that lethargick State, which is natural to Bees, as well as many other Insects, in the Winter Season. A certain Degree of Cold, and a greater Degree of it than is commonly imagined, is favourable to Bees in Winter :

It chills and benumbs their little Bodies, so that their animal Spirits, are very little wasted by Perspiration and consequently there is little or no Occasion to recruit them by eating. If a sharp Frost continues for two or three Months, without Intermiſſion, you may observe, through your Glaſs, that the Bees are all this Time cloſely linked together in Cluſters between the Combs. If they are not altogether without Motion, yet it is certain they ſtir not from their Places, while the Cold continues, and therefore eat not at all: And if ſuch a Frost was to laſt all the Winter, our Bees, I am perſuaded, would be no Sufferers, either by the Cold, or by Fasting: On the contrary, they would ſave all their Winter Stores, and if you could ſuppoſe the Flowers to ſpring ſuddenly out of the Ground at the End of this Frost, they would as ſuddenly recover
their

their former Activity with the returning Heat, and go forth to their Labours, with their usual Vigour and Alacrity. This gives us a plain and the true Reason why more Bees are observed to die in open and warm, than in cold and severe Winters ; And for the same Reason, Mr. Gedde's Observation, I am confident, is a very just one, that *Bees standing on the North Side of a Building, whose Height intercepts the Sun's Beams all the Winter, will waste less of their Provision (almost by half) than others standing in the Sun; for, coming seldom forth, they eat little, and yet, in the Spring, are as forward to Work and Swarm, as those that had twice as much Honey in the Autumn before.*

Let your Bees therefore be so placed, that the Sun may not shine upon them at all in the Winter to entice them abroad, when they can get nothing

thing but an Appetite ; which, though it be necessary to the Health of a Man, is not always requisite to the Health of an Insect.

As for the Summer Sun, though the Boxes (as I have said) must be carefully protected from it, the experienced Bee-Master will easily understand my Meaning, *viz.* that it must not be suffered to dart its Rays on the Top or Sides of the Boxes, which they will by no Means bear, but it ought to shine on the Mouths or Entrance for the Bees, which will be of Service to them in many Respects.

Your Boxes must likewise be sheltered from Rain, as common Hives are ; for the Wet getting in between the Joints will cause the Combs to mould, and otherwise incommode the Bees. The following easy Frame for twelve Colonies, as represented in the

the Plate by the Figures L. M. will sufficiently defend them both from Sun and Rain. Fig. L. represents the Front of the Frame. *a. a.* Two Cells of Oak, lying flat on the Ground, more than four Feet long. In these Cells you are to fix four Oaken Posts, about the Bigness of such as are used for drying Linen.

The two Posts *b. b.* in the Front, are about six Feet two Inches above the Cells: The other two, standing backward, five Feet eight Inches.

You are next to nail some Boards of slit Deal horizontally from one of the Fore-Posts to the other, to skreen the Bees from the Sun. Let these Boards be seven Feet seven Inches in Length, and nailed to the Inside of the Posts, and be well seasoned, that they may not shrink or gape in the Joints.

c. c.

c. c. Are two Splines of Deal to keep the Boards even and strengthen them.

Fig. M. represents the Back of the Frame. *d. d. d. d.* are four strong Boards of the same Length with the Frame, on which you are to place the Boxes. Let the Upper Side of them be very smooth and even, that the Boxes may stand true upon them: Or I would rather advise, to place under every Pair of Boxes a smooth thin Board, as long as the Boxes, and about a Quarter of an Inch wider. The Bees will soon fasten the Boxes to this Board, in such Manner, that you may move or weigh the Boxes and Board together, without breaking the Wax or Refin, which for many Reasons ought to be avoided. These Floors must be supported by Pieces of Wood, or Bearers *e. e.* &c. which are nailed from Post to Post at each End. They are likewise to be well nailed to the Frame,

Frame, to keep them from sinking with the Weight of the Boxes.

f. Represents the Roof, which projects backwards about seven or eight Inches beyond the Boxes, to shelter them from Rain.

You have now only to cut Niches or Holes in the Frame over against every Mouth, or Entrance into the Boxes, as in Fig. L. *b. b.* &c. Let these Niches be near four Inches long, and under each, you must nail a small Piece of Wood for the Bees to light upon.

N. B. The Morning or Evening Sun will shine upon one, or both Ends of the Frame, let its Aspect be what it will; but you may prevent its overheating the Boxes, by a loose Board set up between the Posts, and kept in by two or three Pegs.

C H A P. IV.

How to Order the Bees in the Boxes.

HAVING Hived a Swarm in one Box as before directed, you are to place them in the Evening, where they are to remain. After a few Days, if the Weather be fine, your little Labourers will shew you a beautiful Specimen of their Work: You will see with Pleasure, two or three delicate white, and almost transparent Combs, appear among the Bees. Then it will be Time (if you have not done it before) to take away the loose Board, and give them the other Box, which is thus performed. Your provident Bees, by this Time, will have joined the loose Board to the Box with a gluey Sort of Resin, which the Ancients called *Propolis*, for they are careful to stop every little Hole or Crevise,

Crevice, that is found in their Houses, with this Refiny Substance, just as we careen our Ships, with Pitch and Tar: You are therefore to take a thin Knife and cut through this Refin, till you find the Board at Liberty. After this, having provided a Sheet of Tin, thrust it gently between the Box and the Board to separate them; then, taking away the loose Board, set the other empty Box in the Room of it. Which done, with a gentle Hand draw away your Tin, and thrust the new Box close to the other; then confine them with two or three Staples, to prevent their gaping or shrinking from each other. Your Bees will be pleased with this Addition to their Habitation. Instead of a Dwelling of Straw, which is no better than living in a Barn, you had before given them a Hall, or Parlour neatly wainscoted: And now you furnish them with a Drawing-Room,

E 2

where,

where, for some Time, they may cool and refresh themselves in a sultry Day, and afterwards fill it with their Stores.

You are here to remember to stop the Mouth of this empty Box, and to keep it carefully and constantly stopped, that their Entrance may be only into the first Box.

C H A P. V.

How to take away Part of the Honey, without destroying or much disturbing the Bees.

NO true Lover of Bees, I am persuaded, ever lighted the fatal Match, that was to destroy his little Innocents with livid Flames, and a Smoak that strikes them dead with its intolerable Stench, without much Concern and Uneasiness. Besides, we are not to imagine, that the bountiful
 Creator,

Creator, who has indeed given us all Things richly to enjoy, has likewise given us such an absolute *Right* of *Life* and *Death* over all his Creatures, that we may kill them wantonly at, and for, our *Pleasure*. I know no Right we have over the Life of the meanest Insect, or vilest Worm that creeps upon the Earth, unless the killing it be some Way or other, useful and beneficial to us. We may take away the Lives of our Cattle, in order to support our own with the Flesh of them; but it would be a criminal Piece of Cruelty, as well as Folly, to butcher an innocent Sheep meerly for the Sake of its Fleece, which we might take again and again, without hurting it. If then we can take from our Bees, a considerable Quantity of their Honey and Wax, without injuring them, if they will work for us another, and many other Years, and

2

every

every Year pay us fair and reasonable Contributions, why should we treat *them* with unnecessary Cruelty, and hurt *ourselves* with a Greediness that will turn to our Prejudice? Avarice often mistakes its own Interest. It never can be made to understand, or believe, that strange Proverb, *Dimidium plus toto*. It is evidently more to our Advantage, to spare the Lives of our Bees, and be content with Part of their Stores, than to kill, and take Possession of the whole.

We have long since been directed how to do this, in the Use of Mr. *Geddes* Boxes: But the Method prescribed, is so tedious and difficult, as well as perilous to the Operator, that it has very rarely been practised, and hardly ever attended with Success. The Method I would recommend, and which I practise myself with Ease and

and Safety, and high Delight, is as follows.

About the latter End of *August*, by a little Inspection through your Glassess, you may easily discover, which of your Colonies you may lay under Contribution. Such as have filled a Box and half with their Works, will pretty readily yield you the Half Box: which is paying you a larger Tax than any other Free-Britons (except the Men of *Totness*) would be willing to comply with, *viz.* Seven Shillings in the Pound. But you are not to depend upon the Quantity of Combs, without examining how they are stored with Honey. You may, for the most Part, judge of this, by poising them in your Hands: Or, if you would be more exact, place a String just under the Edge of the back Part of the Boxes; by Means of which, you may, with Stilyards, just raise that Part
from

from the Floor, and the Weight of it will be to the whole, as 9 to 20. You may know the exact Weight of the empty Boxes: You must guess at the Weight of the Combs and Bees, and after these are deducted, if you allow your Labourers eight or nine Pounds of Honey, by Way of Wages, for their Summer's Work; this will ordinarily be sufficient to support them during Winter, and you may take the rest without hurting them, and in the Spring, they will, with Chearfulness, go to work again, for themselves, and their kind Master.

The properest Time for this Adventure, is in the Middle of the Day: And though the Bees are active and busy at this Time, yet as you stand behind the Frame, you, will need no Armour for the Attack, except perhaps, a Pair of Gloves, and a broad-brimmed Hat flouched over your Eyes.

The

The Operation itself, is no more than this: Open the Mouth of the Box you are going to seize; then, with a thin Knife, cut through the Resin, with which the Bees have joined the Boxes to each other, till you find you have separated them: After which thrust your Sheet of Tin gently between the Boxes, and your Work is done; and you will with Pleasure and Surprise observe the Effects of it: For the Communication being stopped, the Bees in the fullest Box (where it is most likely their Queen is) will be a little disturbed at the Operation, but those in the other Box (where we suppose the Queen is not) will appear distracted. They soon become sensible that their Sovereign is not amongst them: They then run to and fro in the utmost Hurry and Confusion, and send forth a mournful Cry, easily to be distinguished from their other Notes.

Immediately it is proclaimed throughout the Territories, that the *Society* is dissolved: *Amiffâ rupére Fidem*; and that every one is to shift for himself as well as he can. Accordingly, they issue out at the new Door you have opened for them; but not in a Body, as when they swarm; for the Body, with Respect to this Box, is no more. Nor do they come out with that calm and chearful Activity, as when they go forth to their Labours; but now and then a Bee or two bursts out, with a wild Flutter, and a visible Rage and Disorder; but this is quickly over, for no sooner are they got abroad, but they spy their Fellows, and fly to them with eager Haste, at the usual Mouth of the other Box: And knowing very well, by the Calmness of their Behaviour, that the Queen is safe, and rejoicing at being again restored to the Common-wealth, they
either

either forget, in the midst of the Transports, or do not at all regret, the Loss of the Riches they have left behind them. Thus in an Hour or two (for they go out slowly) you will have a Box of pure Honey, without a *living Bee* in it to molest you, and without *dead Bees* too, as you have, when you burn them, which are mingled with your Honey, and both waste and damage it.

This Method, I have lately found, and freely acknowledge, will sometimes fail: When the Mouth of the Box to be taken away has not been constantly and carefully closed, the Bees will get acquainted with it as an Entrance, and when you open the Mouth in order to have them leave this Box, they will many of them be apt to return; and, the Communication being stopped, will, in a short Time, carry away all the Honey,

from this to the other Box: So much do they abhor a Separation. When this is the Case, I have Recourse to another Expedient, which, if rightly managed, can never fail. I take a Piece of Deal, a little larger than will cover the Mouth: I cut a square Nich in it more than half an Inch wide: In this Nich I hang a little Trap-Door, made of a thin Piece of Tin, turning upon a Pin, with another Pin, crossing the Nich a little lower, so as to prevent the hanging Door opening both Ways: See Fig. H. This being placed close to the Mouth, the Bees wanting to get out will easily thrust open the Door outwards, but cannot open it the other Way, to get in again: So must, and will, readily make to the other Box, leaving this, in about the Space of two Hours, with all its Store, justly due to the tender

tender hearted Bee-Master, as a Ran-
som for their Lives.

When you carry off the Prize
(which having so fairly taken, you
may, with a safe Conscience, condemn
and enjoy with Pleasure) you are to
set a loose Board in the Room of it,
for they will have no Occasion for an
empty Box before the following Spring:
Then drawing away your Tin, and
fastning the loose Board as tight as
you can with your Staples, you may
take your Leave of them, wishing
them a *cold Winter*, and a *sound Sleep*
till *February*.

CHAP.

C H A P. VI.

*Of the Advantages of these Boxes above
Straw-Hives, or the Boxes invented
by Mr. Gedde.*

NO Part of the Honey can be taken out of Straw-Hives, without destroying the Bees: (for driving them into an empty Hive, is, in Effect, destroying them) And this you are obliged to do, when your Hives are three or four Years Old; because then the Combs (not the Bees, as is vulgarly supposed) grow old, and unfit for Use: And our Bees, for what Reason I know not, will not demolish their old Combs, in order to make new ones: So that by burning your *Old Hives*, and your *poor ones*, neither of which yield much Honey, you commonly lessen your Stock, as much, or more, than your Swarms will make good.

good. Whereas in the Use of these Boxes, you are *every Year*, by Swarms, *encreasing your Stock*, and barring Accidents, and excepting that you must, now and then, burn a very poor one, you never diminish it. For your Boxes, in this Method, are all of them, by Succession, supplied with *new Combs*, before the old ones are decayed: And as for the Bees, if you guard them from Accidents, and save them from Poverty, they will continue, by Succession, to the End of the World.

2. In this Method, you may, with very little Trouble, either give them *more*, or confine them in *less Room*, as there shall be Occasion. If, in the Spring, you confine them to one Box, which is nearly equal to a small Hive, this will cause them to swarm early: If you allow them two, which contain as much as a large Hive, your Swarms will be later, but larger: the
 2 latter,

latter, I believe, will, for the most Part, (especially in good Situations) turn to best Account. After the first Swarm, it will be a greater Advantage to you than is commonly imagined, to give them the second Box, which will be a *Means* of preventing, but will not always prevent, second and late Swarms. By this Method, your Colonies will be well stocked with Bees, in which their Safety chiefly consists: For whenever a Hive is reduced, by over-swarming, or otherwise, to a small Number of Bees, they commonly become a Prey to Robbers, or Moths, or some other of their Enemies: And though they escape their Enemies, they seldom prosper.

3. Your Bees will be much better protected from their *Enemies*, in these Boxes, than in Hives. *Mice* pretty frequently make their Way through Straw-Hives, and destroy them; but
unless

unless you make the Mouth too large, they can no Ways enter your Boxes.

The *Moth* is, in Appearance, the weakest of all their Enemies, yet destroys more Bees, than all their Enemies besides. She lays her Eggs under the Skirts of the Hives, and the Warmth of the Bees hatch them to their own Destruction. From the Eggs issues forth a small whitish Worm, or Caterpillar, which instantly spins itself a fine, filken Sheath, or Gallery, which protects it from the Attacks of the Bees: For these Galleries being wrought like a Spider's Webb, the Bees avoid them, it may be supposed, for Fear of being entangled therein. These Worms, as they increase in Bulk, enlarge their Galleries, till they reach the Combs, when putting out their Heads, which are armed with Scales, as with a Helmet, and so impenetrable by the Bees Stings, they securely feed

G

on

on and devour their curious Works, till the poor distressed Bees are forced to abandon their Habitation.

My Boxes, I freely own, will not secure the poor Bees from these dangerous Enemies ; but they are not so much infested with them as Hives are. Besides, there is a Remedy to be had in Boxes, which Hives will not admit of ; for, by Means of the Glass Lights, you may discover the Moths, before they have done much Damage, and you may take away the infected Box, and save the other ; or you may clear it of the Moths, and then restore it to the right Owners.

4. In the Use of these Boxes, you are furnished with the only Method of preserving poor Stocks by *feeding* them. The best Way hitherto practised, is to give them a large Quantity of Honey in *September*, most of which, if melted, and mixed with Water, to
bring

bring it to a proper Consistency, they will lay up in their Combs for their Winter Store. I have many Times tried this Method, and my Bees have perished with Hunger, with a good deal of this Honey remaining in their Combs. This, I think, can no way be accounted for, unless we suppose, that the Honey thus thinned with Water, will not keep all Winter in the open Cells; for the Bees never seal it up, as they do the rest of their Honey; or else, that the crude Wax, commonly called *Bee-Bread*, with which every Hive is stored, is as necessary to their Subsistence as Honey, and that, when this is all spent, Honey alone will not keep them from perishing.

But if your Bees are in the Boxes I have described, you have an easy and effectual Method, of preserving *Part* at least of your *weak Colonies*: For

G 2

you

you have nothing more to do, than to burn the Bees of one poor Stock, and set the Box, or one of the Boxes, with all the Combs, to another. You may burn the poor Stock at the usual Time, but I would not advise setting it to the other, till *December* or *January*. By this Means, the Bees you feed are supplied with a fresh Store of Bread and Honey, in their *natural State*; and enjoy the Labours of their suffering Brethren, in the same Manner as they do their own. This the good-natured Bee-Master, it is hoped, will comply with now and then, though it be with Reluctance; since there is, in this Case, a cruel Necessity, either of *destroying* one Stock to *preserve* another, or of suffering *both of them* to perish.

5. It will not, I think, be necessary to say much concerning the Advantages of these Boxes, above those of
Mr.

Mr. *Gedde*. His Boxes are directed to be each as large as a Bushel, and they are to be raised, one upon another, three Stories high, with a Hole of Communication in the Top of each Box. Now when the poor Bee, after traversing the Fields far and wide, returns Home weary and heavy laden, she has Occasion, perhaps, to deposit her Burden, up two Pair of Stairs, in the Garret. The lower Room, 'tis likely, is not yet furnished with Stairs: For our little Architects, you know, lay the Foundation of their Structures at the Top, and build downwards. In this Case, the weary little Labourer is to drag her *Crura Thymo plena*, up the Sides of the Walls: When she has done this, she will travel, many Times, backwards and forwards, (as I have frequently seen) along the Roof, before she finds the Door, or Passage into the

the second Story. Here again, she is perplexed with a like puzzling Labyrinth, before she gets into the Third. What a Waste is here, of that precious Time, which our Bees value so much, and which they employ so well? And what an Expence of Strength, and Spirits, on which their Support and Sustenance depends? Whereas, in the Collateral Boxes, the Rooms are all on the Ground Floor: And because I know my Bees are wise enough, to value Convenience more than State, I have made them of such a moderate, tho' decent, Height, that the Bees have much less Way to climb to the Top of them, than they have to the Crown of a common Hive.

6. The Difficulty of driving the Bees out of Mr. *Gedde's* Boxes, in order to take the Honey, has been touched upon before; as likewise the
 vast

vast Expence of them ; which alone,
 had they been never so well contrived
 in other Respects, would be sufficient
 to prevent their being brought into
 common Use. The Expence of my
 Boxes, and of the Frame I have de-
 scribed, if you make a reasonable Al-
 lowance for the *Duration* of them,
 will not, I am confident, prove greater
 in the *End*, than the Charge of Straw-
 Hives, and of the Frames that are
 made, in most Places, for their Re-
 ception : And a great Part of this Ex-
 pence may be saved, if the Bee-
 Master can spare a Place within any
 of his Buildings (especially if they be
 boarded) where he may fix his Stools
 for the Boxes to stand on, making
 Holes at proper Distances for the Bees
 to work out at : Nor need he be very
 solicitous concerning the Aspect or
 Height of his Buildings : For I have
 known Bees thrive well, and get a
 large

large Quantity of Honey, which were placed almost at the Top of a high Turret in *Trinity College*, and on the North Side of it.

The CONCLUSION.

HAVING now fully instructed the candid Reader, in the Structure, Use, and Advantages of my Boxes, I should here Leave him to calculate, by himself, his *future Profits*, in this *new Method* of managing his Bees, but that I am a little afraid he will reckon too fast; and this I would endeavour to prevent. “ I
 “ have now got half a Dozen old
 “ Hives, say the honest Countryman,
 “ and I will immediately order *Tom*
 “ *Gimlet*, to make Col—— what d’ye
 “ call’um Boxes, for all my Swarms :
 “ Every Swarm I get will add to my
 “ Stock ;

“ Stock ; and I shall hardly be such
 “ a Fool, as to lessen it any more, and
 “ grieve my own Heart, by *burning*
 “ the *poor Things*, since I can get ten
 “ times more Honey by preserving
 “ them. So this Summer, if I have
 “ any Luck, I shall have six Swarms
 “ at least ; then the Number of my
 “ Colonies, as the Parson calls ’em,
 “ will be twelve : The next Summer
 “ I shall have twenty four ; and so,
 “ by doubling my Stock every Year,
 “ I shall soon have more than my
 “ little Garden will hold ; but I can
 “ enlarge it.”

The romantick Lady, in the enter-
 taining *History of Bees*, translated from
 the *French* in 1744, has quite out-
 done my Countryman in *her* Compu-
 tations. Her Philosopher had told
 her of a wild and impracticable Me-
 thod, of taking Part of the Honey,
 and saving the Lives of the Bees, by
 H driving

driving them into a Corner of the Hive, by the Smoak of a Rag, while the Operator (bold Man!) should pare away with his Knife, as many of the Combs as he thought proper. Upon this, the charitable Lady, transported with the Discovery, forms the following benevolent Scheme, for the Benefit of her poor Neighbours. *Every Inhabitant of my Hamlet*, says She, *shall be provided with two Hives; every Hive [in France] will, one with another, produce two good Swarms; so a Man who is now possessed of two Hives, will have six next Year, eighteen the following, fifty four the fourth, and the fifth a Hundred and Sixty-two, AND so ON.* The good Lady, I think, might have been content, (but her Charity knew no Bounds) with the last mentioned Number, and spared her &c.

This

This was likewise the serious Language of *Gresham College* (if you will believe Mr. *Gedde*) in the pretended Approbation above-mentioned. *Thus much* (say they) *may certainly be affirmed, that, by the Methods laid down in Mr. Gedde's Treatise, in few Years, there need not be any or few Poor, in the Land. Every Cottager, having but Room to keep Bees in, may, from one Stock, in a small Time, raise twenty, which, with little Care and Labour, may be better than ten Pounds per Annum to him.* How great is the Pity, that not one Cottager (I believe) in the Space of fourscore Years, has been prevailed on, to take this easy and certain Method of growing Rich? for my Part, I am far from expecting such great Things from my present Undertaking: And yet, if considered as a Projector, I am not sensible, that I want a proper Assurance; and my

Reader, I fancy, by this Time, may be of the same Opinion. But, being now almost ready to take my Leave of him, I will tell him honestly, and seriously, what he is to expect, if it shall please him to make Trial of my Boxes. In a few Years, I will venture to promise him, he will increase his Stock, to as great a Number, as the Flowers in his Neighbourhood will maintain, but my Assurance will carry me no further; and sad Experience has taught me, that in some Situations, like this, in which I am myself (in this one Respect) unhappily placed, that Number will be found very small. There are now, in the Village where I dwell, which is a large one, only seven Colonies of my own in Boxes, and two poor Hives of my Neighbours: Yet we have beautiful Meads, and fine Gardens, in which *Flora* discloses all her Beauties, but alas! they

are Beauties *indotatae* : For want of a free and open Air, as I conjecture, in these thick Enclosures, our Flowers yield so little Food for the poor Bees, that no greater Number, I am well satisfied, than what I have mentioned, or thereabouts, can get a Subsistence in this Place : Whereas, in the neighbouring bleak County of *Cambridge*, where the Inundations of the Fens, or the Farmer's Plough, or the Flocks that are grazing (should I say, or starving ?) on barren Heaths, will suffer hardly any Flowers to spring or open their Blossoms, (excepting the Flowers of Eloquence, which thrive exceedingly on the Banks of CAM, but these afford only a thin Sort of

Juice Nectareous

fitter for Poets to feed upon than Bees ;) yet here, I say, there is such a Profusion of Honey, in the few
Flowers

Flowers that escape, that I have seen between seventy and eighty Hives in one Farmer's Yard: And this, just after the *Inquisition* was over, and he had been *murdering* all he intended to *murder* that Season. And these Hives, I know too well, were much better stored with Honey, than any are found to be in these Parts.

Now should this honest Farmer, by Way of rewarding me for these my Labours, for his Benefit, make me a Present of thirty or forty of his Colonies, and should be so kind as to bring and place them in my Garden, what think you, would be the Consequence of his Generosity? Nothing less than a dreadful Famine. The New-comers would be starved themselves, and would starve all my poor Neighbours Bees, for three or four Miles round me. They would be so far from laying up any Thing for a Winter's Day,

Day, that many of them, I believe, would die for Want, in the midst of Summer.

I have often thought it very surprising, that neither the Authors who treat of Bees, nor the Keepers of them, ever imagine, that any Place can be overstocked, or that any one's Bees fare either better or worse, for the larger or smaller Stock that is kept in his Neighbourhood. They think, it seems, that every Flower they see, is a never-failing Cruise of Honey. Let me here acknowledge the Bounty of our Creator, and with due Thankfulness and Admiration confess, that, in some Sense, it is so: For when a Bee, with its little lambent Trunk, has cleared a Flower of all its *present Store*, another comes, 'tis likely, in less than a Minute, and finds *something*: For the delicious Juice is continually sweating through the Pores of the Plant. But,
it

it is certain, for all this, that the more of these Guests visit a Flower, the worse must each of them fare: They will have the less to carry Home, or, which is all one, they must go further, and spend more of their precious Time, before they can make up their Burden.

This Consideration gives a mighty Check, I must own, to the Expectations I should otherwise have from my new Boxes. Was it not for this, I could be as bold, and as large in my Promises, as the Undertakers that have gone before me. I could tell my Countrymen, that I would take upon me to maintain all their Poor, and make their Rates needless.

But this is not my Language. My Country, I flatter myself, will reap some Benefit from the Pains I have taken. There is Reason to believe, that, in many Parts of the Kingdom,
the

the little *Labourers* in Honey and Wax are not *sufficient for the Harvest*; and my Method of managing Bees must unavoidably encrease the Number of them; and will encrease it so far, that all the Honey and Wax which the Flowers of our Climate will yield, will be collected into their Store-Houses. More than this cannot be expected; and this, perhaps, may be a Saving to the Nation, of all that Money, with which we purchase base and adulterate Commodities of this Sort, imported from abroad.

I shall likewise, I hope, have the Satisfaction to find, that many of the poorer Sort will be *benefited*, tho' not *enriched*, by this Method: My Scheme, I am well assured, will furnish them with *Stock*, at a cheap and easy Rate, but I must tell them once more, that *they* must find *Pasture*.

F I N I S.

the little Laboratory in Honey and Wax
is not sufficient for the Harvest; and
any Method of managing Bees must
undoubtedly increase the Number of
them; and will encourage it to far, than
all the Honey and Wax which the
flowers of our Climate will yield, will
be collected into their little Houses.
More than this cannot be expected;
and this, perhaps, may be a saving to
the Nation of all that Money which

7 AP 66

is now expended in the importation
of Bees from abroad.
I shall likewise, I hope, have the
satisfaction to find, that many of the
poorer Sort will be attracted to the
method by the prospect of a better
return well assured, will furnish them
with Stock at a cheap and easy Rate.
But I must tell them once more, that
I shall find them